

I slightly modified Thorstensen's code to print out the time between evening twilight and morning twilight. For Okie-Tex site (site code = o) near Kenton OK I used same time zone as for Oklahoma City.

W. Romanishin- August 2013 - email: wromanishin at ou.edu - Here is stuff from John T. intro:

***** 2025 Night-time Astronomical Calendar for DCT *****

By John Thorstensen, Dartmouth College

This calendar is designed to provide information useful for the planning of nighttime observations. The format should minimize confusion; each line gives the phenomena for a single (local!) night, and each line is labeled with both evening and morning (local) day and date. Note that all times given are LOCAL CIVIL (zone) times.

The rise/set times printed are the times at which the center of the object is 50 arcminutes below the geometrical horizon. At the given twilight, the center of the sun is 0.0 degrees below the geometrical horizon.

The moon positions (and rise/set times) are generated by an implementation of the Low-Precision formulae in the Astronomical Almanac. The Almanac states that the error seldom exceeds 0.3 degrees. Topocentric corrections are included. Comparisons with tables for Kitt Peak in the NOAO Newsletter indicate that the rise-set times are good to +- 2 min or so. The moon's RA, Dec, and illuminated fraction are given for local midnight, regardless of whether the moon is actually up at that time. Note that the moonrise and moonset times are not printed if they occur near mid-day.

The LST at evening and morning twilight are tabulated. This gives an accurate idea of the range of RA's accessible during the night.

The JD is given (severely rounded off) for local midnight. Again, this avoids any ambiguity.

Some credits: The sidereal time and Julian date routines were originally coded in PL/I by Steve Maker of Dartmouth College. The algorithms originated in the old American Ephemeris. The routine to convert JD back to calendar date is adapted from Numerical Recipes in C, by Press et al.

CAUTIONS: I believe that the program which generates these tables is reasonably accurate. However, it has not been exhaustively tested, so you should be sure to run 'sanity checks' on the results. Also, in view of the approximations used, the results should not be used when high precision is needed. Extension to dates far from the present (1990) should be done with great caution. The code has not been tested for the eastern or southern hemishpheres. Rise/set times are slightly inaccurate and rather confusing at circumpolar latitudes, where the concept of a 'night' is blurry.

The daylight savings time conventions (if used) are quite specific (to U. S., post-1986) and subject to change. I know that the code has many infelicities; if you should find actual errors, please notify
John.Thorstensen@dartmouth.edu

[This output comes from a (hopefully) portable, completely self-contained program in the c language. It is available from the author and may be used freely for scientific or educational purposes. If you use it for profit, please contact the author to arrange a (modest!) fee. Source code is copyright John Thorstensen, 1990.]

MOON PHASES FOR 2025, at DCT

Times and dates are given in local time, zone = 7 hr West.
They are generally better than +/- 2 minutes.

The end of the previous year and the beginning of the next
are included for continuity.

NEW		1ST		FULL		LAST	
Dec 30	15 28	Jan 06	16 58	Jan 13	15 28	Jan 21	13 32
Jan 29	5 37	Feb 05	1 04	Feb 12	6 54	Feb 20	10 35
Feb 27	17 47	Mar 06	9 34	Mar 13	23 56	Mar 22	4 32
Mar 29	4 00	Apr 04	19 17	Apr 12	17 24	Apr 20	18 38
Apr 27	12 33	May 04	6 53	May 12	9 58	May 20	5 01
May 26	20 04	Jun 02	20 42	Jun 11	0 46	Jun 18	12 21
Jun 25	3 34	Jul 02	12 30	Jul 10	13 39	Jul 17	17 40
Jul 24	12 12	Aug 01	5 41	Aug 09	0 57	Aug 15	22 14
Aug 22	23 07	Aug 30	23 26	Sep 07	11 11	Sep 14	3 35
Sep 21	12 55	Sep 29	16 55	Oct 06	20 49	Oct 13	11 15
Oct 21	5 26	Oct 29	9 22	Nov 05	6 20	Nov 11	22 30
Nov 19	23 48	Nov 27	24 00	Dec 04	16 15	Dec 11	13 53
Dec 19	18 44	Dec 27	12 11	Jan 03	3 04	Jan 10	8 49

Calendar for DCT, west longitude (h.m.s) = 7 25 41, latitude (d.m) = 34 44.7
 Rise/set times in Mountain time (7 hr W), for 500 m above surroundings, in standard time all year.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2025 JANUARY *****

Date (eve/morn)		LMST	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi		
		midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours	
Wed	Jan 01/Thu	Jan 02	6 23	17 30	18 56	6 03	7 29	1 18	12 27	.....	19 26	6	20 58.0	-21 17	11.1
Thu	Jan 02/Fri	Jan 03	6 27	17 31	18 57	6 03	7 30	1 23	12 31	.....	20 35	13	21 51.3	-16 15	11.1
Fri	Jan 03/Sat	Jan 04	6 31	17 32	18 58	6 04	7 30	1 28	12 36	.....	21 43	21	22 42.5	-10 22	11.1
Sat	Jan 04/Sun	Jan 05	6 35	17 32	18 58	6 04	7 30	1 32	12 40	.....	22 51	30	23 32.2	- 3 55	11.1
Sun	Jan 05/Mon	Jan 06	6 39	17 33	18 59	6 04	7 30	1 37	12 44	.....	23 58	41	0 21.6	2 45	11.1
Mon	Jan 06/Tue	Jan 07	6 43	17 34	19 00	6 04	7 30	1 42	12 48	.....	1 06	53	1 11.9	9 21	11.1
Tue	Jan 07/Wed	Jan 08	6 47	17 35	19 01	6 04	7 30	1 46	12 52	.....	2 16	64	2 04.4	15 30	11.1
Wed	Jan 08/Thu	Jan 09	6 51	17 36	19 01	6 04	7 30	1 51	12 56	.....	3 28	74	3 00.1	20 51	11.0
Thu	Jan 09/Fri	Jan 10	6 55	17 37	19 02	6 04	7 30	1 56	13 00	.....	4 40	84	3 59.5	25 00	11.0
Fri	Jan 10/Sat	Jan 11	6 58	17 38	19 03	6 04	7 29	2 01	13 04	.....	5 50	91	5 02.0	27 35	11.0
Sat	Jan 11/Sun	Jan 12	7 02	17 38	19 04	6 04	7 29	2 05	13 08	.....	6 53	97	6 05.9	28 21	11.0
Sun	Jan 12/Mon	Jan 13	7 06	17 39	19 05	6 04	7 29	2 10	13 11	16 14	7 46	99	7 08.8	27 16	11.0
Mon	Jan 13/Tue	Jan 14	7 10	17 40	19 05	6 04	7 29	2 15	13 15	17 21	.....	100	8 08.4	24 32	11.0
Tue	Jan 14/Wed	Jan 15	7 14	17 41	19 06	6 04	7 29	2 20	13 19	18 29	.....	98	9 03.7	20 31	11.0
Wed	Jan 15/Thu	Jan 16	7 18	17 42	19 07	6 04	7 28	2 24	13 23	19 34	.....	94	9 54.6	15 35	10.9
Thu	Jan 16/Fri	Jan 17	7 22	17 43	19 08	6 03	7 28	2 29	13 27	20 36	.....	88	10 41.7	10 07	10.9
Fri	Jan 17/Sat	Jan 18	7 26	17 44	19 09	6 03	7 28	2 34	13 30	21 35	.....	81	11 26.0	4 22	10.9
Sat	Jan 18/Sun	Jan 19	7 30	17 45	19 10	6 03	7 27	2 39	13 34	22 32	.....	73	12 08.8	- 1 25	10.9
Sun	Jan 19/Mon	Jan 20	7 34	17 46	19 10	6 03	7 27	2 44	13 38	23 28	.....	64	12 51.0	- 7 04	10.9
Mon	Jan 20/Tue	Jan 21	7 38	17 47	19 11	6 02	7 27	2 48	13 41	0 24	.....	55	13 33.9	-12 26	10.9
Tue	Jan 21/Wed	Jan 22	7 42	17 48	19 12	6 02	7 26	2 53	13 45	1 22	.....	45	14 18.3	-17 22	10.8
Wed	Jan 22/Thu	Jan 23	7 46	17 49	19 13	6 02	7 26	2 58	13 49	2 21	.....	36	15 05.3	-21 40	10.8
Thu	Jan 23/Fri	Jan 24	7 50	17 50	19 14	6 01	7 25	3 03	13 52	3 22	.....	27	15 55.4	-25 09	10.8
Fri	Jan 24/Sat	Jan 25	7 54	17 51	19 15	6 01	7 25	3 08	13 56	4 24	.....	19	16 49.0	-27 33	10.8
Sat	Jan 25/Sun	Jan 26	7 58	17 52	19 16	6 01	7 24	3 12	13 59	5 23	.....	12	17 45.5	-28 39	10.7
Sun	Jan 26/Mon	Jan 27	8 02	17 53	19 16	6 00	7 23	3 17	14 03	6 18	.....	6	18 43.9	-28 14	10.7
Mon	Jan 27/Tue	Jan 28	8 06	17 54	19 17	6 00	7 23	3 22	14 06	7 06	15 59	2	19 42.5	-26 14	10.7
Tue	Jan 28/Wed	Jan 29	8 09	17 55	19 18	5 59	7 22	3 27	14 10	7 47	17 08	0	20 39.9	-22 43	10.7
Wed	Jan 29/Thu	Jan 30	8 13	17 56	19 19	5 59	7 21	3 32	14 13	.....	18 19	1	21 35.1	-17 53	10.7
Thu	Jan 30/Fri	Jan 31	8 17	17 57	19 20	5 58	7 21	3 37	14 16	.....	19 30	4	22 28.0	-12 03	10.6
Fri	Jan 31/Sat	Feb 01	8 21	17 58	19 21	5 57	7 20	3 41	14 20	.....	20 40	9	23 19.1	- 5 33	10.6

***** 2025 FEBRUARY *****

Date (eve/morn)		LMST	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi		
		midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours	
Sat	Feb 01/Sun	Feb 02	8 25	17 59	19 22	5 57	7 19	3 46	14 23	.....	21 49	17	0 09.3	1 15	10.6
Sun	Feb 02/Mon	Feb 03	8 29	18 00	19 23	5 56	7 18	3 51	14 26	.....	22 58	27	0 59.9	8 00	10.6
Mon	Feb 03/Tue	Feb 04	8 33	18 01	19 23	5 55	7 18	3 56	14 29	.....	0 08	37	1 52.0	14 19	10.5
Tue	Feb 04/Wed	Feb 05	8 37	18 02	19 24	5 55	7 17	4 01	14 33	.....	1 19	49	2 46.6	19 51	10.5
Wed	Feb 05/Thu	Feb 06	8 41	18 03	19 25	5 54	7 16	4 05	14 36	.....	2 31	60	3 44.3	24 14	10.5
Thu	Feb 06/Fri	Feb 07	8 45	18 04	19 26	5 53	7 15	4 10	14 39	.....	3 41	71	4 44.8	27 09	10.5
Fri	Feb 07/Sat	Feb 08	8 49	18 05	19 27	5 52	7 14	4 15	14 42	.....	4 44	80	5 47.0	28 22	10.4
Sat	Feb 08/Sun	Feb 09	8 53	18 06	19 28	5 52	7 13	4 20	14 45	.....	5 40	88	6 48.8	27 49	10.4
Sun	Feb 09/Mon	Feb 10	8 57	18 07	19 29	5 51	7 12	4 25	14 48	.....	6 25	94	7 48.3	25 36	10.4
Mon	Feb 10/Tue	Feb 11	9 01	18 08	19 30	5 50	7 11	4 30	14 52	16 14	7 03	98	8 44.2	22 01	10.3
Tue	Feb 11/Wed	Feb 12	9 05	18 09	19 30	5 49	7 10	4 34	14 55	17 20	7 34	100	9 36.1	17 22	10.3
Wed	Feb 12/Thu	Feb 13	9 09	18 10	19 31	5 48	7 09	4 39	14 58	18 23	.....	99	10 24.3	12 02	10.3
Thu	Feb 13/Fri	Feb 14	9 13	18 11	19 32	5 47	7 08	4 44	15 01	19 23	.....	97	11 09.6	6 18	10.3
Fri	Feb 14/Sat	Feb 15	9 16	18 12	19 33	5 46	7 07	4 49	15 04	20 21	.....	93	11 53.1	0 26	10.2
Sat	Feb 15/Sun	Feb 16	9 20	18 13	19 34	5 45	7 06	4 54	15 07	21 17	.....	87	12 35.8	- 5 22	10.2
Sun	Feb 16/Mon	Feb 17	9 24	18 14	19 35	5 44	7 05	4 58	15 10	22 14	.....	80	13 18.7	-10 55	10.2
Mon	Feb 17/Tue	Feb 18	9 28	18 15	19 36	5 43	7 04	5 03	15 12	23 11	.....	72	14 02.8	-16 03	10.1
Tue	Feb 18/Wed	Feb 19	9 32	18 16	19 36	5 42	7 03	5 08	15 15	0 09	.....	63	14 48.9	-20 36	10.1
Wed	Feb 19/Thu	Feb 20	9 36	18 16	19 37	5 41	7 02	5 13	15 18	1 09	.....	53	15 37.7	-24 22	10.1
Thu	Feb 20/Fri	Feb 21	9 40	18 17	19 38	5 40	7 01	5 18	15 21	2 10	.....	44	16 29.7	-27 08	10.0
Fri	Feb 21/Sat	Feb 22	9 44	18 18	19 39	5 39	6 59	5 22	15 24	3 09	.....	34	17 24.6	-28 41	10.0
Sat	Feb 22/Sun	Feb 23	9 48	18 19	19 40	5 38	6 58	5 27	15 27	4 05	.....	25	18 21.8	-28 49	10.0
Sun	Feb 23/Mon	Feb 24	9 52	18 20	19 41	5 37	6 57	5 32	15 30	4 55	.....	17	19 19.9	-27 25	9.9
Mon	Feb 24/Tue	Feb 25	9 56	18 21	19 42	5 35	6 56	5 37	15 32	5 39	.....	10	20 17.5	-24 28	9.9
Tue	Feb 25/Wed	Feb 26	10 00	18 22	19 42	5 34	6 55	5 42	15 35	6 17	.....	4	21 13.6	-20 06	9.9
Wed	Feb 26/Thu	Feb 27	10 04	18 23	19 43	5 33	6 53	5 46	15 38	6 51	17 07	1	22 07.8	-14 32	9.8
Thu	Feb 27/Fri	Feb 28	10 08	18 24	19 44	5 32	6 52	5 51	15 41	7 21	18 19	0	23 00.4	- 8 07	9.8
Fri	Feb 28/Sat	Mar 01	10 12	18 25	19 45	5 31	6 51	5 56	15 43	.....	19 30	2	23 52.0	- 1 11	9.8

Calendar for DCT, west longitude (h.m.s) = 7 25 41, latitude (d.m) = 34 44.7
 Rise/set times in Mountain time (7 hr W), for 500 m above surroundings, in standard time all year.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2025 MARCH *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi hours	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Sat Mar 01/Sun Mar 02	10 16	18 25	19 46	5 29	6 50	6 01	15 46	.....	20 41	7	0 43.7	5 50	9.7
Sun Mar 02/Mon Mar 03	10 20	18 26	19 47	5 28	6 48	6 05	15 49	.....	21 54	14	1 36.7	12 31	9.7
Mon Mar 03/Tue Mar 04	10 23	18 27	19 47	5 27	6 47	6 10	15 51	.....	23 07	23	2 31.9	18 27	9.7
Tue Mar 04/Wed Mar 05	10 27	18 28	19 48	5 26	6 46	6 15	15 54	.....	0 21	34	3 29.8	23 15	9.6
Wed Mar 05/Thu Mar 06	10 31	18 29	19 49	5 24	6 44	6 20	15 57	.....	1 33	45	4 30.2	26 35	9.6
Thu Mar 06/Fri Mar 07	10 35	18 30	19 50	5 23	6 43	6 25	15 59	.....	2 39	56	5 32.1	28 13	9.5
Fri Mar 07/Sat Mar 08	10 39	18 31	19 51	5 22	6 42	6 29	16 02	.....	3 37	67	6 33.7	28 04	9.5
Sat Mar 08/Sun Mar 09	10 43	18 31	19 52	5 20	6 40	6 34	16 04	.....	4 25	76	7 33.1	26 16	9.5
Sun Mar 09/Mon Mar 10	10 47	18 32	19 53	5 19	6 39	6 39	16 07	.....	5 04	85	8 29.0	23 03	9.4
Mon Mar 10/Tue Mar 11	10 51	18 33	19 53	5 17	6 38	6 44	16 09	.....	5 37	91	9 21.0	18 44	9.4
Tue Mar 11/Wed Mar 12	10 55	18 34	19 54	5 16	6 36	6 49	16 12	.....	6 05	96	10 09.5	13 37	9.4
Wed Mar 12/Thu Mar 13	10 59	18 35	19 55	5 15	6 35	6 53	16 15	17 13	6 29	99	10 55.1	8 02	9.3
Thu Mar 13/Fri Mar 14	11 03	18 36	19 56	5 13	6 34	6 58	16 17	18 12	6 52	100	11 38.9	2 11	9.3
Fri Mar 14/Sat Mar 15	11 07	18 36	19 57	5 12	6 32	7 03	16 20	19 08	7 15	99	12 21.7	- 3 40	9.2
Sat Mar 15/Sun Mar 16	11 11	18 37	19 58	5 10	6 31	7 08	16 22	20 05	.....	96	13 04.6	- 9 21	9.2
Sun Mar 16/Mon Mar 17	11 15	18 38	19 59	5 09	6 29	7 13	16 25	21 02	.....	92	13 48.5	-14 41	9.2
Mon Mar 17/Tue Mar 18	11 19	18 39	20 00	5 07	6 28	7 18	16 27	22 00	.....	86	14 34.1	-19 27	9.1
Tue Mar 18/Wed Mar 19	11 23	18 40	20 00	5 06	6 27	7 22	16 30	22 59	.....	78	15 22.1	-23 30	9.1
Wed Mar 19/Thu Mar 20	11 27	18 40	20 01	5 05	6 25	7 27	16 32	23 59	.....	70	16 13.0	-26 35	9.1
Thu Mar 20/Fri Mar 21	11 31	18 41	20 02	5 03	6 24	7 32	16 34	0 58	.....	61	17 06.6	-28 32	9.0
Fri Mar 21/Sat Mar 22	11 34	18 42	20 03	5 02	6 23	7 37	16 37	1 54	.....	51	18 02.3	-29 08	9.0
Sat Mar 22/Sun Mar 23	11 38	18 43	20 04	5 00	6 21	7 42	16 39	2 46	.....	41	18 59.2	-28 18	8.9
Sun Mar 23/Mon Mar 24	11 42	18 44	20 05	4 59	6 20	7 47	16 42	3 31	.....	31	19 56.0	-25 57	8.9
Mon Mar 24/Tue Mar 25	11 46	18 44	20 06	4 57	6 18	7 51	16 44	4 11	.....	22	20 51.6	-22 12	8.9
Tue Mar 25/Wed Mar 26	11 50	18 45	20 07	4 56	6 17	7 56	16 47	4 46	.....	13	21 45.7	-17 10	8.8
Wed Mar 26/Thu Mar 27	11 54	18 46	20 08	4 54	6 16	8 01	16 49	5 17	.....	7	22 38.3	-11 07	8.8
Thu Mar 27/Fri Mar 28	11 58	18 47	20 09	4 53	6 14	8 06	16 51	5 47	17 04	2	23 30.2	- 4 21	8.7
Fri Mar 28/Sat Mar 29	12 02	18 48	20 09	4 51	6 13	8 11	16 54	6 16	18 16	0	0 22.3	2 44	8.7
Sat Mar 29/Sun Mar 30	12 06	18 48	20 10	4 49	6 11	8 16	16 56	6 48	19 29	1	1 15.7	9 44	8.7
Sun Mar 30/Mon Mar 31	12 10	18 49	20 11	4 48	6 10	8 21	16 59	.....	20 45	5	2 11.3	16 11	8.6
Mon Mar 31/Tue Apr 01	12 14	18 50	20 12	4 46	6 09	8 26	17 01	.....	22 02	11	3 10.0	21 35	8.6

***** 2025 APRIL *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi hours	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Tue Apr 01/Wed Apr 02	12 18	18 51	20 13	4 45	6 07	8 30	17 03	.....	23 18	20	4 11.4	25 32	8.5
Wed Apr 02/Thu Apr 03	12 22	18 52	20 14	4 43	6 06	8 35	17 06	.....	0 29	30	5 14.7	27 44	8.5
Thu Apr 03/Fri Apr 04	12 26	18 52	20 15	4 42	6 05	8 40	17 08	.....	1 31	41	6 17.7	28 05	8.4
Fri Apr 04/Sat Apr 05	12 30	18 53	20 16	4 40	6 03	8 45	17 11	.....	2 23	52	7 18.4	26 40	8.4
Sat Apr 05/Sun Apr 06	12 34	18 54	20 17	4 39	6 02	8 50	17 13	.....	3 05	62	8 15.3	23 46	8.4
Sun Apr 06/Mon Apr 07	12 38	18 55	20 18	4 37	6 00	8 55	17 15	.....	3 40	72	9 08.1	19 43	8.3
Mon Apr 07/Tue Apr 08	12 41	18 55	20 19	4 36	5 59	9 00	17 18	.....	4 09	80	9 56.9	14 50	8.3
Tue Apr 08/Wed Apr 09	12 45	18 56	20 20	4 34	5 58	9 05	17 20	.....	4 34	88	10 42.8	9 24	8.2
Wed Apr 09/Thu Apr 10	12 49	18 57	20 21	4 32	5 56	9 10	17 23	.....	4 57	93	11 26.5	3 40	8.2
Thu Apr 10/Fri Apr 11	12 53	18 58	20 22	4 31	5 55	9 15	17 25	17 02	5 20	97	12 09.2	- 2 09	8.1
Fri Apr 11/Sat Apr 12	12 57	18 59	20 23	4 29	5 54	9 20	17 27	17 58	5 43	100	12 51.9	- 7 52	8.1
Sat Apr 12/Sun Apr 13	13 01	18 59	20 24	4 28	5 52	9 25	17 30	18 55	6 08	100	13 35.4	-13 19	8.1
Sun Apr 13/Mon Apr 14	13 05	19 00	20 25	4 26	5 51	9 30	17 32	19 52	6 35	98	14 20.6	-18 16	8.0
Mon Apr 14/Tue Apr 15	13 09	19 01	20 26	4 25	5 50	9 35	17 35	20 51	.....	95	15 08.1	-22 33	8.0
Tue Apr 15/Wed Apr 16	13 13	19 02	20 27	4 23	5 49	9 40	17 37	21 51	.....	90	15 58.4	-25 56	7.9
Wed Apr 16/Thu Apr 17	13 17	19 03	20 28	4 22	5 47	9 45	17 39	22 50	.....	84	16 51.4	-28 12	7.9
Thu Apr 17/Fri Apr 18	13 21	19 03	20 29	4 20	5 46	9 50	17 42	23 47	.....	76	17 46.5	-29 11	7.8
Fri Apr 18/Sat Apr 19	13 25	19 04	20 31	4 19	5 45	9 55	17 44	0 39	.....	67	18 42.6	-28 46	7.8
Sat Apr 19/Sun Apr 20	13 29	19 05	20 32	4 17	5 44	10 00	17 47	1 26	.....	57	19 38.6	-26 54	7.8
Sun Apr 20/Mon Apr 21	13 33	19 06	20 33	4 16	5 42	10 05	17 49	2 07	.....	47	20 33.4	-23 39	7.7
Mon Apr 21/Tue Apr 22	13 37	19 07	20 34	4 14	5 41	10 10	17 52	2 42	.....	37	21 26.7	-19 10	7.7
Tue Apr 22/Wed Apr 23	13 41	19 07	20 35	4 13	5 40	10 15	17 54	3 14	.....	26	22 18.4	-13 38	7.6
Wed Apr 23/Thu Apr 24	13 45	19 08	20 36	4 11	5 39	10 20	17 57	3 43	.....	17	23 09.2	- 7 17	7.6
Thu Apr 24/Fri Apr 25	13 49	19 09	20 37	4 10	5 38	10 25	17 59	4 12	.....	9	0 00.2	- 0 26	7.5
Fri Apr 25/Sat Apr 26	13 52	19 10	20 38	4 08	5 37	10 30	18 02	4 42	.....	4	0 52.4	6 34	7.5
Sat Apr 26/Sun Apr 27	13 56	19 11	20 39	4 07	5 36	10 35	18 04	5 15	18 16	0	1 47.0	13 17	7.5
Sun Apr 27/Mon Apr 28	14 00	19 12	20 40	4 06	5 34	10 40	18 07	5 54	19 33	0	2 45.0	19 14	7.4
Mon Apr 28/Tue Apr 29	14 04	19 12	20 42	4 04	5 33	10 45	18 09	6 39	20 52	3	3 46.5	23 53	7.4
Tue Apr 29/Wed Apr 30	14 08	19 13	20 43	4 03	5 32	10 50	18 12	.....	22 08	9	4 50.8	26 51	7.3
Wed Apr 30/Thu May 01	14 12	19 14	20 44	4 01	5 31	10 55	18 14	.....	23 17	17	5 55.9	27 52	7.3

Calendar for DCT, west longitude (h.m.s) = 7 25 41, latitude (d.m) = 34 44.7
 Rise/set times in Mountain time (7 hr W), for 500 m above surroundings, in standard time all year.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2025 MAY *****

Date (eve/morn)			LMST	----- Sun: -----				LST twilight:		----- Moon: -----					Twi-Twi
			midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Thu May 01/Fri May 02	14 16	19 15 20 45	4 00 5 30	11 01 18 17	.....	0 15	26	6 59.2	26 59	7.3				
Fri May 02/Sat May 03	14 20	19 16 20 46	3 59 5 29	11 06 18 19	.....	1 03	36	7 58.7	24 27	7.2				
Sat May 03/Sun May 04	14 24	19 16 20 47	3 57 5 28	11 11 18 22	.....	1 41	46	8 53.5	20 39	7.2				
Sun May 04/Mon May 05	14 28	19 17 20 48	3 56 5 27	11 16 18 25	.....	2 12	57	9 43.8	15 55	7.1				
Mon May 05/Tue May 06	14 32	19 18 20 50	3 55 5 26	11 21 18 27	.....	2 38	67	10 30.5	10 37	7.1				
Tue May 06/Wed May 07	14 36	19 19 20 51	3 53 5 25	11 26 18 30	.....	3 02	75	11 14.6	4 58	7.0				
Wed May 07/Thu May 08	14 40	19 20 20 52	3 52 5 24	11 31 18 33	.....	3 25	83	11 57.4	- 0 48	7.0				
Thu May 08/Fri May 09	14 44	19 20 20 53	3 51 5 23	11 36 18 35	.....	3 48	90	12 39.7	- 6 31	7.0				
Fri May 09/Sat May 10	14 48	19 21 20 54	3 50 5 23	11 41 18 38	.....	4 12	95	13 22.8	-12 00	6.9				
Sat May 10/Sun May 11	14 52	19 22 20 55	3 49 5 22	11 46 18 41	17 46	4 38	98	14 07.5	-17 05	6.9					
Sun May 11/Mon May 12	14 56	19 23 20 56	3 47 5 21	11 51 18 44	18 44	5 08	100	14 54.5	-21 33	6.8					
Mon May 12/Tue May 13	14 59	19 24 20 58	3 46 5 20	11 57 18 46	19 44	5 43	99	15 44.3	-25 11	6.8					
Tue May 13/Wed May 14	15 03	19 24 20 59	3 45 5 19	12 02 18 49	20 43	6 25	97	16 37.0	-27 45	6.8					
Wed May 14/Thu May 15	15 07	19 25 21 00	3 44 5 19	12 07 18 52	21 41	.....	93	17 32.1	-29 04	6.7				
Thu May 15/Fri May 16	15 11	19 26 21 01	3 43 5 18	12 12 18 55	22 35	.....	88	18 28.3	-28 59	6.7				
Fri May 16/Sat May 17	15 15	19 27 21 02	3 42 5 17	12 17 18 58	23 24	.....	81	19 24.4	-27 28	6.7				
Sat May 17/Sun May 18	15 19	19 28 21 03	3 41 5 16	12 22 19 01	0 05	.....	72	20 19.3	-24 34	6.6				
Sun May 18/Mon May 19	15 23	19 28 21 04	3 40 5 16	12 27 19 04	0 42	.....	62	21 12.2	-20 26	6.6				
Mon May 19/Tue May 20	15 27	19 29 21 05	3 39 5 15	12 32 19 07	1 14	.....	52	22 03.2	-15 17	6.6				
Tue May 20/Wed May 21	15 31	19 30 21 06	3 38 5 15	12 37 19 10	1 43	.....	41	22 53.0	- 9 19	6.5				
Wed May 21/Thu May 22	15 35	19 31 21 07	3 37 5 14	12 42 19 13	2 11	.....	30	23 42.4	- 2 48	6.5				
Thu May 22/Fri May 23	15 39	19 31 21 08	3 36 5 13	12 47 19 16	2 39	.....	20	0 32.6	3 58	6.5				
Fri May 23/Sat May 24	15 43	19 32 21 10	3 35 5 13	12 52 19 19	3 10	.....	12	1 24.9	10 38	6.4				
Sat May 24/Sun May 25	15 47	19 33 21 11	3 35 5 12	12 57 19 22	3 45	.....	5	2 20.5	16 48	6.4				
Sun May 25/Mon May 26	15 51	19 33 21 12	3 34 5 12	13 02 19 25	4 26	18 22	1	3 20.1	21 58	6.4					
Mon May 26/Tue May 27	15 55	19 34 21 13	3 33 5 11	13 07 19 28	5 17	19 40	0	4 23.6	25 38	6.3					
Tue May 27/Wed May 28	15 59	19 35 21 14	3 32 5 11	13 12 19 31	6 17	20 54	2	5 29.2	27 27	6.3					
Wed May 28/Thu May 29	16 03	19 35 21 14	3 32 5 11	13 17 19 35	.....	22 00	7	6 34.6	27 16	6.3				
Thu May 29/Fri May 30	16 07	19 36 21 15	3 31 5 10	13 21 19 38	.....	22 53	13	7 36.9	25 15	6.3				
Fri May 30/Sat May 31	16 10	19 37 21 16	3 30 5 10	13 26 19 41	.....	23 36	22	8 34.7	21 46	6.2				
Sat May 31/Sun Jun 01	16 14	19 37 21 17	3 30 5 10	13 31 19 45	.....	0 11	31	9 27.5	17 12	6.2				

***** 2025 JUNE *****

Date (eve/morn)			LMST	----- Sun: -----				LST twilight:		----- Moon: -----					Twi-Twi
			midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Sun Jun 01/Mon Jun 02	16 18	19 38 21 18	3 29 5 09	13 36 19 48	.....	0 40	41	10 16.0	11 58	6.2				
Mon Jun 02/Tue Jun 03	16 22	19 39 21 19	3 29 5 09	13 41 19 52	.....	1 05	51	11 01.3	6 21	6.2				
Tue Jun 03/Wed Jun 04	16 26	19 39 21 20	3 28 5 09	13 45 19 55	.....	1 29	61	11 44.6	0 35	6.1				
Wed Jun 04/Thu Jun 05	16 30	19 40 21 20	3 28 5 09	13 50 19 59	.....	1 52	70	12 27.1	- 5 09	6.1				
Thu Jun 05/Fri Jun 06	16 34	19 40 21 21	3 27 5 08	13 55 20 02	.....	2 15	78	13 09.8	-10 41	6.1				
Fri Jun 06/Sat Jun 07	16 38	19 41 21 22	3 27 5 08	14 00 20 06	.....	2 41	85	13 53.9	-15 51	6.1				
Sat Jun 07/Sun Jun 08	16 42	19 41 21 23	3 27 5 08	14 04 20 09	.....	3 09	91	14 40.1	-20 28	6.1				
Sun Jun 08/Mon Jun 09	16 46	19 42 21 23	3 27 5 08	14 09 20 13	17 36	3 43	96	15 29.2	-24 20	6.1					
Mon Jun 09/Tue Jun 10	16 50	19 42 21 24	3 26 5 08	14 13 20 17	18 36	4 23	99	16 21.4	-27 13	6.0					
Tue Jun 10/Wed Jun 11	16 54	19 43 21 25	3 26 5 08	14 18 20 20	19 35	5 10	100	17 16.4	-28 52	6.0					
Wed Jun 11/Thu Jun 12	16 58	19 43 21 25	3 26 5 08	14 22 20 24	20 31	6 04	99	18 13.0	-29 08	6.0					
Thu Jun 12/Fri Jun 13	17 02	19 44 21 26	3 26 5 08	14 27 20 28	21 21	.....	96	19 10.0	-27 56	6.0				
Fri Jun 13/Sat Jun 14	17 06	19 44 21 26	3 26 5 08	14 31 20 32	22 05	.....	91	20 05.8	-25 18	6.0				
Sat Jun 14/Sun Jun 15	17 10	19 44 21 27	3 26 5 08	14 36 20 36	22 43	.....	84	20 59.5	-21 24	6.0				
Sun Jun 15/Mon Jun 16	17 14	19 45 21 27	3 26 5 08	14 40 20 40	23 16	.....	76	21 51.0	-16 26	6.0				
Mon Jun 16/Tue Jun 17	17 17	19 45 21 27	3 26 5 08	14 44 20 44	23 45	.....	66	22 40.7	-10 40	6.0				
Tue Jun 17/Wed Jun 18	17 21	19 45 21 28	3 26 5 08	14 49 20 48	0 13	.....	55	23 29.3	- 4 21	6.0				
Wed Jun 18/Thu Jun 19	17 25	19 46 21 28	3 26 5 09	14 53 20 52	0 40	.....	44	0 18.2	2 14	6.0				
Thu Jun 19/Fri Jun 20	17 29	19 46 21 28	3 26 5 09	14 57 20 56	1 08	.....	33	1 08.5	8 48	6.0				
Fri Jun 20/Sat Jun 21	17 33	19 46 21 29	3 26 5 09	15 01 21 00	1 40	.....	23	2 01.6	14 58	6.0				
Sat Jun 21/Sun Jun 22	17 37	19 46 21 29	3 27 5 09	15 06 21 04	2 18	.....	14	2 58.3	20 20	6.0				
Sun Jun 22/Mon Jun 23	17 41	19 47 21 29	3 27 5 09	15 10 21 09	3 03	.....	7	3 59.2	24 28	6.0				
Mon Jun 23/Tue Jun 24	17 45	19 47 21 29	3 27 5 10	15 14 21 13	3 58	18 31	2	5 03.3	26 56	6.0					
Tue Jun 24/Wed Jun 25	17 49	19 47 21 29	3 28 5 10	15 18 21 17	5 02	19 40	0	6 08.7	27 28	6.0					
Wed Jun 25/Thu Jun 26	17 53	19 47 21 29	3 28 5 10	15 22 21 22	6 13	20 40	1	7 12.5	26 06	6.0					
Thu Jun 26/Fri Jun 27	17 57	19 47 21 29	3 28 5 11	15 26 21 26	.....	21 28	5	8 12.6	23 04	6.0				
Fri Jun 27/Sat Jun 28	18 01	19 47 21 29	3 29 5 11	15 30 21 30	.....	22 07	10	9 08.0	18 47	6.0				
Sat Jun 28/Sun Jun 29	18 05	19 47 21 29	3 29 5 11	15 33 21 35	.....	22 39	17	9 58.7	13 39	6.0				
Sun Jun 29/Mon Jun 30	18 09	19 47 21 29	3 30 5 12	15 37 21 39	.....	23 06	26	10 45.7	8 02	6.0				
Mon Jun 30/Tue Jul 01	18 13	19 47 21 29	3 31 5 12	15 41 21 44	.....	23 31	35	11 30.1	2 13	6.0				

Calendar for DCT, west longitude (h.m.s) = 7 25 41, latitude (d.m) = 34 44.7
 Rise/set times in Mountain time (7 hr W), for 500 m above surroundings, in standard time all year.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2025 JULY *****

Date (eve/morn)		LMST	----- Sun: -----					LST twilight:		----- Moon: -----					Twi-Twi
		midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours	
Tue Jul 01/Wed Jul 02		18 17	19 47	21 29	3 31	5 13	15 45	21 48	.....	23 54	45	12 13.1	- 3 35	6.0
Wed Jul 02/Thu Jul 03		18 21	19 47	21 28	3 32	5 13	15 48	21 53	.....	0 17	54	12 55.8	- 9 12	6.1
Thu Jul 03/Fri Jul 04		18 24	19 47	21 28	3 32	5 14	15 52	21 58	.....	0 42	64	13 39.4	-14 29	6.1
Fri Jul 04/Sat Jul 05		18 28	19 47	21 28	3 33	5 14	15 56	22 02	.....	1 10	72	14 24.8	-19 16	6.1
Sat Jul 05/Sun Jul 06		18 32	19 46	21 27	3 34	5 15	15 59	22 07	.....	1 41	80	15 12.8	-23 21	6.1
Sun Jul 06/Mon Jul 07		18 36	19 46	21 27	3 35	5 15	16 03	22 12	.....	2 19	87	16 04.0	-26 31	6.1
Mon Jul 07/Tue Jul 08		18 40	19 46	21 26	3 35	5 16	16 06	22 16	.....	3 03	93	16 58.2	-28 33	6.2
Tue Jul 08/Wed Jul 09		18 44	19 46	21 26	3 36	5 16	16 10	22 21	18 23	3 56	97	17 54.8	-29 15	6.2	
Wed Jul 09/Thu Jul 10		18 48	19 45	21 25	3 37	5 17	16 13	22 26	19 16	4 55	99	18 52.3	-28 27	6.2	
Thu Jul 10/Fri Jul 11		18 52	19 45	21 25	3 38	5 18	16 16	22 31	20 03	5 59	100	19 49.4	-26 09	6.2	
Fri Jul 11/Sat Jul 12		18 56	19 45	21 24	3 39	5 18	16 20	22 35	20 43	.....	98	20 44.6	-22 29	6.2
Sat Jul 12/Sun Jul 13		19 00	19 44	21 24	3 40	5 19	16 23	22 40	21 18	.....	93	21 37.6	-17 39	6.3
Sun Jul 13/Mon Jul 14		19 04	19 44	21 23	3 41	5 19	16 26	22 45	21 48	.....	87	22 28.4	-11 56	6.3
Mon Jul 14/Tue Jul 15		19 08	19 44	21 22	3 41	5 20	16 30	22 50	22 16	.....	79	23 17.7	- 5 38	6.3
Tue Jul 15/Wed Jul 16		19 12	19 43	21 21	3 42	5 21	16 33	22 55	22 43	.....	69	0 06.7	0 58	6.3
Wed Jul 16/Thu Jul 17		19 16	19 43	21 21	3 43	5 21	16 36	23 00	23 11	.....	58	0 56.3	7 32	6.4
Thu Jul 17/Fri Jul 18		19 20	19 42	21 20	3 44	5 22	16 39	23 05	23 41	.....	46	1 48.0	13 45	6.4
Fri Jul 18/Sat Jul 19		19 24	19 42	21 19	3 45	5 23	16 42	23 10	0 15	.....	35	2 42.8	19 15	6.4
Sat Jul 19/Sun Jul 20		19 28	19 41	21 18	3 46	5 23	16 45	23 15	0 56	.....	25	3 41.2	23 39	6.5
Sun Jul 20/Mon Jul 21		19 32	19 40	21 17	3 47	5 24	16 48	23 20	1 46	.....	15	4 43.1	26 32	6.5
Mon Jul 21/Tue Jul 22		19 35	19 40	21 16	3 48	5 25	16 51	23 24	2 45	.....	8	5 47.0	27 38	6.5
Tue Jul 22/Wed Jul 23		19 39	19 39	21 15	3 49	5 26	16 54	23 29	3 52	18 27	3	6 50.5	26 52	6.6	
Wed Jul 23/Thu Jul 24		19 43	19 38	21 14	3 50	5 26	16 57	23 34	5 03	19 19	0	7 51.4	24 22	6.6	
Thu Jul 24/Fri Jul 25		19 47	19 38	21 13	3 52	5 27	17 00	23 39	6 13	20 01	0	8 48.1	20 27	6.6	
Fri Jul 25/Sat Jul 26		19 51	19 37	21 12	3 53	5 28	17 03	23 44	.....	20 36	3	9 40.5	15 32	6.7
Sat Jul 26/Sun Jul 27		19 55	19 36	21 11	3 54	5 28	17 06	23 49	.....	21 05	7	10 28.9	10 00	6.7
Sun Jul 27/Mon Jul 28		19 59	19 36	21 10	3 55	5 29	17 09	23 54	.....	21 31	13	11 14.4	4 10	6.7
Mon Jul 28/Tue Jul 29		20 03	19 35	21 09	3 56	5 30	17 11	24 00	.....	21 55	21	11 58.1	- 1 44	6.8
Tue Jul 29/Wed Jul 30		20 07	19 34	21 08	3 57	5 31	17 14	0 05	.....	22 19	29	12 41.1	- 7 29	6.8
Wed Jul 30/Thu Jul 31		20 11	19 33	21 07	3 58	5 31	17 17	0 10	.....	22 43	38	13 24.5	-12 54	6.9
Thu Jul 31/Fri Aug 01		20 15	19 32	21 05	3 59	5 32	17 20	0 15	.....	23 10	47	14 09.2	-17 52	6.9

***** 2025 AUGUST *****

Date (eve/morn)		LMST	----- Sun: -----					LST twilight:		----- Moon: -----					Twi-Twi
		midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours	
Fri Aug 01/Sat Aug 02		20 19	19 31	21 04	4 00	5 33	17 22	0 20	.....	23 40	57	14 56.0	-22 10	6.9
Sat Aug 02/Sun Aug 03		20 23	19 30	21 03	4 01	5 34	17 25	0 25	.....	0 14	66	15 45.7	-25 38	7.0
Sun Aug 03/Mon Aug 04		20 27	19 30	21 02	4 02	5 34	17 28	0 30	.....	0 56	75	16 38.5	-28 03	7.0
Mon Aug 04/Tue Aug 05		20 31	19 29	21 00	4 03	5 35	17 30	0 35	.....	1 45	83	17 34.0	-29 12	7.1
Tue Aug 05/Wed Aug 06		20 35	19 28	20 59	4 05	5 36	17 33	0 40	.....	2 41	90	18 31.2	-28 55	7.1
Wed Aug 06/Thu Aug 07		20 39	19 27	20 58	4 06	5 37	17 36	0 45	17 57	3 44	95	19 28.7	-27 08	7.1	
Thu Aug 07/Fri Aug 08		20 42	19 26	20 56	4 07	5 37	17 38	0 50	18 40	4 51	99	20 25.2	-23 52	7.2	
Fri Aug 08/Sat Aug 09		20 46	19 25	20 55	4 08	5 38	17 41	0 55	19 17	5 58	100	21 19.7	-19 18	7.2	
Sat Aug 09/Sun Aug 10		20 50	19 23	20 54	4 09	5 39	17 43	1 00	19 49	.....	99	22 12.2	-13 42	7.3
Sun Aug 10/Mon Aug 11		20 54	19 22	20 52	4 10	5 40	17 46	1 05	20 19	.....	95	23 03.1	- 7 21	7.3
Mon Aug 11/Tue Aug 12		20 58	19 21	20 51	4 11	5 41	17 49	1 10	20 46	.....	89	23 53.2	- 0 36	7.3
Tue Aug 12/Wed Aug 13		21 02	19 20	20 49	4 12	5 41	17 51	1 15	21 14	.....	81	0 43.7	6 11	7.4
Wed Aug 13/Thu Aug 14		21 06	19 19	20 48	4 13	5 42	17 54	1 20	21 44	.....	71	1 35.6	12 38	7.4
Thu Aug 14/Fri Aug 15		21 10	19 18	20 46	4 14	5 43	17 56	1 25	22 16	.....	60	2 30.1	18 23	7.5
Fri Aug 15/Sat Aug 16		21 14	19 17	20 45	4 15	5 44	17 59	1 30	22 55	.....	49	3 27.7	23 03	7.5
Sat Aug 16/Sun Aug 17		21 18	19 16	20 44	4 16	5 44	18 01	1 35	23 41	.....	37	4 28.4	26 16	7.5
Sun Aug 17/Mon Aug 18		21 22	19 14	20 42	4 17	5 45	18 03	1 40	0 36	.....	27	5 31.1	27 46	7.6
Mon Aug 18/Tue Aug 19		21 26	19 13	20 41	4 18	5 46	18 06	1 45	1 39	.....	17	6 33.8	27 27	7.6
Tue Aug 19/Wed Aug 20		21 30	19 12	20 39	4 19	5 47	18 08	1 50	2 47	17 13	10	7 34.4	25 25	7.7	
Wed Aug 20/Thu Aug 21		21 34	19 11	20 38	4 20	5 47	18 11	1 55	3 57	17 58	4	8 31.4	21 55	7.7	
Thu Aug 21/Fri Aug 22		21 38	19 10	20 36	4 22	5 48	18 13	2 00	5 05	18 35	1	9 24.4	17 19	7.8	
Fri Aug 22/Sat Aug 23		21 42	19 08	20 35	4 23	5 49	18 16	2 05	6 09	19 05	0	10 13.5	11 57	7.8	
Sat Aug 23/Sun Aug 24		21 46	19 07	20 33	4 24	5 50	18 18	2 10	.....	19 32	1	10 59.7	6 11	7.8
Sun Aug 24/Mon Aug 25		21 50	19 06	20 31	4 25	5 50	18 20	2 15	.....	19 57	4	11 43.8	0 16	7.9
Mon Aug 25/Tue Aug 26		21 53	19 04	20 30	4 26	5 51	18 23	2 20	.....	20 21	9	12 27.0	- 5 34	7.9
Tue Aug 26/Wed Aug 27		21 57	19 03	20 28	4 26	5 52	18 25	2 25	.....	20 45	15	13 10.2	-11 09	8.0
Wed Aug 27/Thu Aug 28		22 01	19 02	20 27	4 27	5 52	18 28	2 30	.....	21 10	23	13 54.3	-16 17	8.0
Thu Aug 28/Fri Aug 29		22 05	19 00	20 25	4 28	5 53	18 30	2 34	.....	21 39	31	14 40.2	-20 48	8.1
Fri Aug 29/Sat Aug 30		22 09	18 59	20 24	4 29	5 54	18 32	2 39	.....	22 11	40	15 28.6	-24 32	8.1
Sat Aug 30/Sun Aug 31		22 13	18 58	20 22	4 30	5 55	18 35	2 44	.....	22 49	50	16 19.7	-27 18	8.1
Sun Aug 31/Mon Sep 01		22 17	18 56	20 20	4 31	5 55	18 37	2 49	.....	23 35	59	17 13.4	-28 54	8.2

Calendar for DCT, west longitude (h.m.s) = 7 25 41, latitude (d.m) = 34 44.7
 Rise/set times in Mountain time (7 hr W), for 500 m above surroundings, in standard time all year.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2025 SEPTEMBER *****

Date (eve/morn)	LMST midn	----- Sun: -----					LST twilight:		----- Moon: -----					RA	Dec	Twi-Twi hours
		set	twi.end	twi.beg	rise	rise	eve	morn	rise	set	%illum					
Mon Sep 01/Tue Sep 02	22 21	18 55	20 19	4 32	5 56	18 39	2 54	.....	0 27	69	18 09.2	-29 09	8.2		
Tue Sep 02/Wed Sep 03	22 25	18 54	20 17	4 33	5 57	18 42	2 59	.....	1 27	77	19 05.9	-27 57	8.3		
Wed Sep 03/Thu Sep 04	22 29	18 52	20 16	4 34	5 58	18 44	3 04	.....	2 32	86	20 02.2	-25 17	8.3		
Thu Sep 04/Fri Sep 05	22 33	18 51	20 14	4 35	5 58	18 46	3 09	17 13	3 39	92	20 57.4	-21 13	8.3			
Fri Sep 05/Sat Sep 06	22 37	18 50	20 13	4 36	5 59	18 49	3 13	17 47	4 47	97	21 50.9	-15 58	8.4			
Sat Sep 06/Sun Sep 07	22 41	18 48	20 11	4 37	6 00	18 51	3 18	18 18	5 56	100	22 43.0	- 9 46	8.4			
Sun Sep 07/Mon Sep 08	22 45	18 47	20 09	4 38	6 00	18 53	3 23	18 47	7 05	100	23 34.4	- 2 58	8.5			
Mon Sep 08/Tue Sep 09	22 49	18 45	20 08	4 39	6 01	18 56	3 28	19 15	.....	97	0 26.1	4 03	8.5		
Tue Sep 09/Wed Sep 10	22 53	18 44	20 06	4 39	6 02	18 58	3 33	19 45	.....	91	1 19.1	10 53	8.6		
Wed Sep 10/Thu Sep 11	22 57	18 43	20 05	4 40	6 03	19 01	3 38	20 17	.....	83	2 14.5	17 05	8.6		
Thu Sep 11/Fri Sep 12	23 00	18 41	20 03	4 41	6 03	19 03	3 42	20 54	.....	73	3 12.9	22 13	8.6		
Fri Sep 12/Sat Sep 13	23 04	18 40	20 02	4 42	6 04	19 05	3 47	21 38	.....	62	4 14.2	25 53	8.7		
Sat Sep 13/Sun Sep 14	23 08	18 38	20 00	4 43	6 05	19 08	3 52	22 31	.....	51	5 17.4	27 48	8.7		
Sun Sep 14/Mon Sep 15	23 12	18 37	19 58	4 44	6 05	19 10	3 57	23 32	.....	40	6 20.5	27 53	8.8		
Mon Sep 15/Tue Sep 16	23 16	18 35	19 57	4 45	6 06	19 12	4 02	0 38	.....	29	7 21.4	26 12	8.8		
Tue Sep 16/Wed Sep 17	23 20	18 34	19 55	4 45	6 07	19 15	4 06	1 47	.....	20	8 18.7	23 02	8.8		
Wed Sep 17/Thu Sep 18	23 24	18 32	19 54	4 46	6 08	19 17	4 11	2 54	.....	12	9 11.9	18 43	8.9		
Thu Sep 18/Fri Sep 19	23 28	18 31	19 52	4 47	6 08	19 20	4 16	3 58	17 08	6	10 01.2	13 35	8.9			
Fri Sep 19/Sat Sep 20	23 32	18 30	19 51	4 48	6 09	19 22	4 21	5 00	17 35	2	10 47.5	7 58	9.0			
Sat Sep 20/Sun Sep 21	23 36	18 28	19 49	4 49	6 10	19 24	4 26	5 59	18 00	0	11 31.6	2 07	9.0			
Sun Sep 21/Mon Sep 22	23 40	18 27	19 48	4 50	6 11	19 27	4 30	6 57	18 24	0	12 14.7	- 3 44	9.0			
Mon Sep 22/Tue Sep 23	23 44	18 25	19 46	4 50	6 11	19 29	4 35	.....	18 48	2	12 57.6	- 9 23	9.1		
Tue Sep 23/Wed Sep 24	23 48	18 24	19 45	4 51	6 12	19 32	4 40	.....	19 12	6	13 41.3	-14 39	9.1		
Wed Sep 24/Thu Sep 25	23 52	18 22	19 43	4 52	6 13	19 34	4 45	.....	19 40	11	14 26.5	-19 22	9.2		
Thu Sep 25/Fri Sep 26	23 56	18 21	19 42	4 53	6 13	19 37	4 49	.....	20 10	17	15 13.9	-23 20	9.2		
Fri Sep 26/Sat Sep 27	24 00	18 20	19 40	4 54	6 14	19 39	4 54	.....	20 46	25	16 03.6	-26 23	9.2		
Sat Sep 27/Sun Sep 28	0 04	18 18	19 39	4 54	6 15	19 41	4 59	.....	21 28	33	16 55.8	-28 20	9.3		
Sun Sep 28/Mon Sep 29	0 08	18 17	19 37	4 55	6 16	19 44	5 04	.....	22 17	43	17 49.9	-29 01	9.3		
Mon Sep 29/Tue Sep 30	0 11	18 15	19 36	4 56	6 16	19 46	5 08	.....	23 13	52	18 45.0	-28 21	9.3		
Tue Sep 30/Wed Oct 01	0 15	18 14	19 34	4 57	6 17	19 49	5 13	.....	0 14	62	19 40.1	-26 17	9.4		

***** 2025 OCTOBER *****

Date (eve/morn)	LMST midn	----- Sun: -----					LST twilight:		----- Moon: -----					RA	Dec	Twi-Twi hours
		set	twi.end	twi.beg	rise	rise	eve	morn	rise	set	%illum					
Wed Oct 01/Thu Oct 02	0 19	18 13	19 33	4 58	6 18	19 51	5 18	.....	1 19	72	20 34.4	-22 52	9.4		
Thu Oct 02/Fri Oct 03	0 23	18 11	19 31	4 58	6 19	19 54	5 22	.....	2 26	81	21 27.5	-18 11	9.4		
Fri Oct 03/Sat Oct 04	0 27	18 10	19 30	4 59	6 19	19 56	5 27	.....	3 33	89	22 19.4	-12 28	9.5		
Sat Oct 04/Sun Oct 05	0 31	18 08	19 29	5 00	6 20	19 59	5 32	16 44	4 42	95	23 10.8	- 5 56	9.5			
Sun Oct 05/Mon Oct 06	0 35	18 07	19 27	5 01	6 21	20 02	5 37	17 13	5 52	99	0 02.6	1 04	9.6			
Mon Oct 06/Tue Oct 07	0 39	18 06	19 26	5 02	6 22	20 04	5 41	17 42	7 04	100	0 55.9	8 09	9.6			
Tue Oct 07/Wed Oct 08	0 43	18 04	19 25	5 02	6 23	20 07	5 46	18 14	.....	98	1 51.8	14 51	9.6		
Wed Oct 08/Thu Oct 09	0 47	18 03	19 23	5 03	6 23	20 09	5 51	18 50	.....	93	2 51.2	20 37	9.7		
Thu Oct 09/Fri Oct 10	0 51	18 02	19 22	5 04	6 24	20 12	5 56	19 33	.....	86	3 54.0	24 59	9.7		
Fri Oct 10/Sat Oct 11	0 55	18 00	19 21	5 05	6 25	20 15	6 00	20 24	.....	76	4 59.2	27 32	9.7		
Sat Oct 11/Sun Oct 12	0 59	17 59	19 19	5 05	6 26	20 17	6 05	21 24	.....	66	6 04.6	28 08	9.8		
Sun Oct 12/Mon Oct 13	1 03	17 58	19 18	5 06	6 27	20 20	6 10	22 30	.....	54	7 07.7	26 49	9.8		
Mon Oct 13/Tue Oct 14	1 07	17 57	19 17	5 07	6 27	20 23	6 14	23 39	.....	43	8 06.7	23 55	9.8		
Tue Oct 14/Wed Oct 15	1 11	17 55	19 16	5 08	6 28	20 25	6 19	0 46	.....	33	9 01.1	19 48	9.9		
Wed Oct 15/Thu Oct 16	1 15	17 54	19 14	5 09	6 29	20 28	6 24	1 51	.....	24	9 51.1	14 50	9.9		
Thu Oct 16/Fri Oct 17	1 18	17 53	19 13	5 09	6 30	20 31	6 29	2 53	.....	16	10 37.6	9 21	9.9		
Fri Oct 17/Sat Oct 18	1 22	17 51	19 12	5 10	6 31	20 34	6 33	3 52	.....	9	11 21.8	3 35	10.0		
Sat Oct 18/Sun Oct 19	1 26	17 50	19 11	5 11	6 32	20 36	6 38	4 50	16 28	4	12 04.7	- 2 13	10.0			
Sun Oct 19/Mon Oct 20	1 30	17 49	19 10	5 12	6 32	20 39	6 43	5 47	16 52	1	12 47.3	- 7 52	10.0			
Mon Oct 20/Tue Oct 21	1 34	17 48	19 09	5 12	6 33	20 42	6 48	6 45	17 16	0	13 30.5	-13 12	10.1			
Tue Oct 21/Wed Oct 22	1 38	17 47	19 07	5 13	6 34	20 45	6 52	7 44	17 42	1	14 15.1	-18 01	10.1			
Wed Oct 22/Thu Oct 23	1 42	17 46	19 06	5 14	6 35	20 48	6 57	.....	18 12	3	15 01.7	-22 10	10.1		
Thu Oct 23/Fri Oct 24	1 46	17 44	19 05	5 15	6 36	20 51	7 02	.....	18 46	7	15 50.7	-25 26	10.2		
Fri Oct 24/Sat Oct 25	1 50	17 43	19 04	5 16	6 37	20 53	7 06	.....	19 25	12	16 41.9	-27 39	10.2		
Sat Oct 25/Sun Oct 26	1 54	17 42	19 03	5 16	6 38	20 56	7 11	.....	20 12	19	17 34.9	-28 40	10.2		
Sun Oct 26/Mon Oct 27	1 58	17 41	19 02	5 17	6 39	20 59	7 16	.....	21 05	27	18 28.8	-28 23	10.2		
Mon Oct 27/Tue Oct 28	2 02	17 40	19 01	5 18	6 39	21 02	7 21	.....	22 03	36	19 22.6	-26 46	10.3		
Tue Oct 28/Wed Oct 29	2 06	17 39	19 00	5 19	6 40	21 05	7 25	.....	23 05	45	20 15.6	-23 52	10.3		
Wed Oct 29/Thu Oct 30	2 10	17 38	18 59	5 20	6 41	21 08	7 30	.....	0 08	55	21 07.3	-19 46	10.3		
Thu Oct 30/Fri Oct 31	2 14	17 37	18 59	5 20	6 42	21 11	7 35	.....	1 13	66	21 57.7	-14 38	10.4		
Fri Oct 31/Sat Nov 01	2 18	17 36	18 58	5 21	6 43	21 14	7 40	.....	2 19	76	22 47.6	- 8 37	10.4		

Calendar for DCT, west longitude (h.m.s) = 7 25 41, latitude (d.m) = 34 44.7
 Rise/set times in Mountain time (7 hr W), for 500 m above surroundings, in standard time all year.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2025 NOVEMBER *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twilight	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Sat Nov 01/Sun Nov 02	2 22	17 35	18 57	5 22	6 44	21 18	7 44	.....	3 27	85	23 37.8	- 2 00	10.4
Sun Nov 02/Mon Nov 03	2 25	17 34	18 56	5 23	6 45	21 21	7 49	.....	4 37	92	0 29.5	4 58	10.4
Mon Nov 03/Tue Nov 04	2 29	17 33	18 55	5 24	6 46	21 24	7 54	16 08	5 50	97	1 23.9	11 50	10.5
Tue Nov 04/Wed Nov 05	2 33	17 32	18 54	5 25	6 47	21 27	7 59	16 42	7 07	100	2 22.2	18 08	10.5
Wed Nov 05/Thu Nov 06	2 37	17 31	18 54	5 25	6 48	21 30	8 04	17 22	.....	99	3 25.0	23 17	10.5
Thu Nov 06/Fri Nov 07	2 41	17 31	18 53	5 26	6 49	21 33	8 08	18 10	.....	95	4 31.7	26 44	10.6
Fri Nov 07/Sat Nov 08	2 45	17 30	18 52	5 27	6 50	21 37	8 13	19 09	.....	88	5 40.0	28 08	10.6
Sat Nov 08/Sun Nov 09	2 49	17 29	18 52	5 28	6 51	21 40	8 18	20 15	.....	80	6 46.8	27 25	10.6
Sun Nov 09/Mon Nov 10	2 53	17 28	18 51	5 29	6 52	21 43	8 23	21 26	.....	70	7 49.6	24 52	10.6
Mon Nov 10/Tue Nov 11	2 57	17 27	18 50	5 29	6 52	21 46	8 27	22 37	.....	59	8 47.1	20 55	10.7
Tue Nov 11/Wed Nov 12	3 01	17 27	18 50	5 30	6 53	21 50	8 32	23 44	.....	49	9 39.3	16 01	10.7
Wed Nov 12/Thu Nov 13	3 05	17 26	18 49	5 31	6 54	21 53	8 37	0 47	.....	38	10 27.3	10 34	10.7
Thu Nov 13/Fri Nov 14	3 09	17 25	18 49	5 32	6 55	21 57	8 42	1 47	.....	29	11 12.3	4 49	10.7
Fri Nov 14/Sat Nov 15	3 13	17 25	18 48	5 33	6 56	22 00	8 46	2 45	.....	20	11 55.5	- 0 58	10.7
Sat Nov 15/Sun Nov 16	3 17	17 24	18 48	5 34	6 57	22 04	8 51	3 42	.....	13	12 38.0	- 6 38	10.8
Sun Nov 16/Mon Nov 17	3 21	17 24	18 47	5 34	6 58	22 07	8 56	4 39	.....	8	13 20.9	-11 59	10.8
Mon Nov 17/Tue Nov 18	3 25	17 23	18 47	5 35	6 59	22 11	9 01	5 37	15 46	4	14 05.0	-16 54	10.8
Tue Nov 18/Wed Nov 19	3 29	17 22	18 46	5 36	7 00	22 14	9 06	6 36	16 14	1	14 51.1	-21 09	10.8
Wed Nov 19/Thu Nov 20	3 33	17 22	18 46	5 37	7 01	22 18	9 10	7 35	16 47	0	15 39.5	-24 36	10.8
Thu Nov 20/Fri Nov 21	3 36	17 22	18 46	5 38	7 02	22 21	9 15	.....	17 25	1	16 30.2	-27 02	10.9
Fri Nov 21/Sat Nov 22	3 40	17 21	18 45	5 39	7 03	22 25	9 20	.....	18 09	4	17 22.8	-28 17	10.9
Sat Nov 22/Sun Nov 23	3 44	17 21	18 45	5 39	7 04	22 29	9 25	.....	19 00	8	18 16.3	-28 16	10.9
Sun Nov 23/Mon Nov 24	3 48	17 20	18 45	5 40	7 05	22 32	9 29	.....	19 56	14	19 09.7	-26 57	10.9
Mon Nov 24/Tue Nov 25	3 52	17 20	18 45	5 41	7 06	22 36	9 34	.....	20 57	21	20 02.0	-24 22	10.9
Tue Nov 25/Wed Nov 26	3 56	17 20	18 44	5 42	7 07	22 40	9 39	.....	21 59	29	20 52.8	-20 39	11.0
Wed Nov 26/Thu Nov 27	4 00	17 19	18 44	5 43	7 08	22 44	9 44	.....	23 02	39	21 42.0	-15 56	11.0
Thu Nov 27/Fri Nov 28	4 04	17 19	18 44	5 43	7 08	22 47	9 48	.....	0 05	49	22 30.2	-10 24	11.0
Fri Nov 28/Sat Nov 29	4 08	17 19	18 44	5 44	7 09	22 51	9 53	.....	1 09	60	23 18.2	- 4 14	11.0
Sat Nov 29/Sun Nov 30	4 12	17 19	18 44	5 45	7 10	22 55	9 58	.....	2 15	71	0 07.1	2 20	11.0
Sun Nov 30/Mon Dec 01	4 16	17 19	18 44	5 46	7 11	22 59	10 03	.....	3 24	80	0 58.3	9 01	11.0

***** 2025 DECEMBER *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twilight	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Mon Dec 01/Tue Dec 02	4 20	17 18	18 44	5 46	7 12	23 03	10 07	.....	4 37	89	1 53.2	15 25	11.0
Tue Dec 02/Wed Dec 03	4 24	17 18	18 44	5 47	7 13	23 07	10 12	.....	5 55	95	2 53.0	21 03	11.1
Wed Dec 03/Thu Dec 04	4 28	17 18	18 44	5 48	7 14	23 11	10 17	15 54	7 13	99	3 57.8	25 20	11.1
Thu Dec 04/Fri Dec 05	4 32	17 18	18 44	5 49	7 15	23 15	10 21	16 48	8 28	100	5 06.5	27 44	11.1
Fri Dec 05/Sat Dec 06	4 36	17 18	18 44	5 49	7 15	23 19	10 26	17 52	.....	97	6 16.1	27 57	11.1
Sat Dec 06/Sun Dec 07	4 40	17 18	18 44	5 50	7 16	23 23	10 31	19 03	.....	92	7 23.1	26 04	11.1
Sun Dec 07/Mon Dec 08	4 43	17 18	18 44	5 51	7 17	23 27	10 35	20 17	.....	84	8 25.2	22 27	11.1
Mon Dec 08/Tue Dec 09	4 47	17 19	18 45	5 52	7 18	23 31	10 40	21 29	.....	75	9 21.4	17 38	11.1
Tue Dec 09/Wed Dec 10	4 51	17 19	18 45	5 52	7 18	23 35	10 45	22 36	.....	65	10 12.5	12 07	11.1
Wed Dec 10/Thu Dec 11	4 55	17 19	18 45	5 53	7 19	23 39	10 49	23 38	.....	55	10 59.6	6 16	11.1
Thu Dec 11/Fri Dec 12	4 59	17 19	18 45	5 54	7 20	23 44	10 54	0 38	.....	45	11 44.2	0 21	11.1
Fri Dec 12/Sat Dec 13	5 03	17 19	18 46	5 54	7 21	23 48	10 58	1 36	.....	35	12 27.4	- 5 26	11.1
Sat Dec 13/Sun Dec 14	5 07	17 20	18 46	5 55	7 21	23 52	11 03	2 33	.....	27	13 10.5	-10 54	11.1
Sun Dec 14/Mon Dec 15	5 11	17 20	18 46	5 55	7 22	23 56	11 08	3 30	.....	19	13 54.5	-15 55	11.2
Mon Dec 15/Tue Dec 16	5 15	17 20	18 47	5 56	7 23	0 01	11 12	4 29	.....	12	14 40.2	-20 18	11.2
Tue Dec 16/Wed Dec 17	5 19	17 21	18 47	5 57	7 23	0 05	11 17	5 28	.....	7	15 28.1	-23 54	11.2
Wed Dec 17/Thu Dec 18	5 23	17 21	18 47	5 57	7 24	0 09	11 21	6 26	.....	3	16 18.4	-26 32	11.2
Thu Dec 18/Fri Dec 19	5 27	17 21	18 48	5 58	7 24	0 14	11 26	7 22	16 06	1	17 10.7	-28 02	11.2
Fri Dec 19/Sat Dec 20	5 31	17 22	18 48	5 58	7 25	0 18	11 30	8 14	16 55	0	18 04.3	-28 16	11.2
Sat Dec 20/Sun Dec 21	5 35	17 22	18 49	5 59	7 25	0 23	11 35	.....	17 51	1	18 58.0	-27 11	11.2
Sun Dec 21/Mon Dec 22	5 39	17 23	18 49	5 59	7 26	0 27	11 39	.....	18 51	5	19 50.7	-24 49	11.2
Mon Dec 22/Tue Dec 23	5 43	17 23	18 50	6 00	7 26	0 32	11 43	.....	19 53	9	20 41.7	-21 18	11.2
Tue Dec 23/Wed Dec 24	5 47	17 24	18 50	6 00	7 27	0 36	11 48	.....	20 55	16	21 30.8	-16 47	11.2
Wed Dec 24/Thu Dec 25	5 51	17 24	18 51	6 01	7 27	0 41	11 52	.....	21 58	24	22 18.4	-11 29	11.2
Thu Dec 25/Fri Dec 26	5 54	17 25	18 51	6 01	7 28	0 45	11 56	.....	23 00	33	23 05.2	- 5 36	11.2
Fri Dec 26/Sat Dec 27	5 58	17 26	18 52	6 01	7 28	0 50	12 01	.....	0 03	44	23 52.2	0 41	11.2
Sat Dec 27/Sun Dec 28	6 02	17 26	18 53	6 02	7 28	0 54	12 05	.....	1 09	55	0 40.6	7 05	11.2
Sun Dec 28/Mon Dec 29	6 06	17 27	18 53	6 02	7 28	0 59	12 09	.....	2 17	66	1 31.9	13 21	11.1
Mon Dec 29/Tue Dec 30	6 10	17 28	18 54	6 02	7 29	1 03	12 14	.....	3 30	76	2 27.4	19 04	11.1
Tue Dec 30/Wed Dec 31	6 14	17 28	18 55	6 03	7 29	1 08	12 18	.....	4 46	86	3 27.9	23 46	11.1
Wed Dec 31/Thu Jan 01	6 18	17 29	18 55	6 03	7 29	1 13	12 22	.....	6 01	93	4 33.3	26 56	11.1